Quality of Life among Lithuanian University Students

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The aim of the current study was to evaluate the quality of life (QoL) among university students using the WHOQoL-BREF instrument and to compare students' groups of biomedical, technological and humanitarian study profiles. Third-year students from three universities (Kaunas University of Medicine, Kaunas University of Technology and Vilnius University, n = 919) were involved in the study. The average overall QoL score was 13.71 (from 20 possible). A strong correlation between the physical and the environmental domains ($r = 0.52$), social relations and the psychological domain ($r = 0.5$), as well as between health conditions perceived by students and their mean QoL scores was observed. Differences by gender in the physical domain were also found to be significant: female scores were lower than male scores ($p < 0.05$).

The results indicated that significant differences in mean QoL scores in physical and psychological domains were not observed among the students' groups of biomedical, technological, humanitarian study profiles, though the average QoL score in the psychological domain was lower than the overall average QoL scores of the third year university students. The QoL mean scores (15.07) in the social domain were significantly higher in humanitarian profile students than in biomedical and technical ones ($p < 0.05$), possibly because of better personal relationships, social support among the humanitarian profile students. The mean QoL scores in environmental domain (11.78) were significantly lower in humanitarian students than in biomedical and technological students, possibly because of the shortage of financial resources, poor domestic environment.

Key words: quality of life, WHOQoL-BREF, university students

INTRODUCTION

Quality of life (QoL) is a concept with a variety of definitions. QoL is associated with a positive value as happiness, success, wealth, health and satisfaction. As Bowling (1) has described, QoL in relation to health is a broader concept than personal health status and also involves social well-being. The literature covers a range of components of QoL: functional ability including the role of functioning (*e.g.,* domestic, return to work), the degree and quality of social and community interaction, psychological well-being, somatic sensation (*e.g.,* pain) and life satisfaction. Basically, QoL is recognized as a concept representing individual responses to the physical, mental and social effects of illness on daily living that influence the extent to which personal satisfaction with life circumstances can be achieved. It encompasses more than the adequate physical well-being, it includes perceptions of well-being, a basic level of satisfaction and a general sense of self-worth. Lindstrom (2) has analysed how various disciplines have approached the QoL concept and how QoL relates to health assets. He has formulated the QoL concept describing the essential resources of life for an individual, a group or society in terms of both objective and subjective conditions. This definition is operationalised into a general QoL model of four spheres of life, the global sphere representing society and the macro environment, the external sphere representing socio-economic conditions, the interpersonal sphere representing the structure and function of social support, and the personal sphere representing physical, mental and spiritual conditions.

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The World Health Organisation Quality of Life assessment (WHOQoL) Group has included in its definition of quality of life the individual's perception of his position in life in the context of culture and a system of values in which he lives and in relation to his goals, expectations, standards and concerns (3). It is a broad-ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs and social relationship to salient features of the environment. The WHO emphasizes the positive side of the concept of health, that is, a positive attitude of society towards the maintenance and improvement of health as the main condition for social well-being.

Improvement of QoL is one of the main objectives of the Lithuanian Health Programme based on the European health policy and strategy (4). QoL is an important issue of health care, requiring a significant adjustment of priorities and reallocation of resources. Care and resources should not be used only to treat diseases and prolong life. People with disabilities and those suffering from chronic diseases, especially during the terminal stages, should have adequate conditions for the improvement of their QoL. Several methods have been developed for the evaluation of QoL. Recently, evaluation of the QoL in Lithuania has been initiated. Population-based studies should be carried out in order to assess and monitor the QoL in a standard way. It should be performed systematically for groups living in unfavourable economic and social conditions. According to the WHO programme "Health for All in the 21st Century", QoL for the population can be improved if: the monitoring of health potential and QoL is started; active participation of individuals in community activities and formulation of health policy in particular are encouraged; access to health prerequisites, especially education, is improved; healthy lifestyles are accepted as a social norm; greater emphasis is imposed on the QoL at primary, secondary and tertiary levels of health care (5).

Assessment of QoL should be included into the programmes for the monitoring and improvement of health. The programmes for improvement of QoL should be based on scientific results and implemented by the joint efforts of all governmental, research and health care institutions.

As White (6) has reported, it is difficult to develop a unified conceptualization of QoL, applicable to all members of the university community, as the needs and expectations are different for student groups as well as individuals within these groups. This calls for a multidimensional approach using different parameters for different groups. Students, for example, tend to focus on short-term goals, because of their short tenure at the university. Shorter-term goals of satisfaction, happiness, interpersonal-social interactions, physical and emotional health, and satisfactory living arrangements are extremely important to students, whereas longer-term goals such as tenure/job security and opportunities for professional development and promotion may be more important to other groups of population. There are also factors external to the university that can have a profound effect on the QoL for all students.

QoL has never been assessed among students in Lithuania. Some studies of risk behaviour among students were carried out at Vilnius University (VU), Kaunas University of Technology (KTU), Kaunas University of Medicine (KMU). These studies covered the questions of alcohol, tobacco, drug use, sexual behaviour, dietary habits, traumas, and physical activity. Results of the surveys have suggested that many students at these universities engage in health-risk behaviour, which contributes to mortality and morbidity among adults (7, 8, 9, 10). QoL influences the benefit gained and given to society by university students.

The aim of the study was to evaluate QoL among Lithuanian university students, using the World Health Organisation Quality of Life assessment brief (WHOQoL-BREF) instrument and to compare student groups of biomedical, technological, humanitarian study profiles.

MATERIALS AND METHODS

A cross-sectional study design was used in this survey for quantifying the distribution of certain variables in the study population at one point in time. The subjects were questioned after being given a full explanation of the purpose of the study by the researchers and after giving consent to participate in the study. 919 third-year students were recruited from KMU, KTU and VU. The cluster sampling was used in this study for selection of groups of study units – clusters, instead of the selection of study units individually. In order to assess the variables that influence the QoL of students, the subjects were classified into three groups by study profile: biomedicine, technology and humanities (KMU, KTU, VU respectively).

QoL among students was measured according to a WHOQoL-BREF questionnaire, an abbreviated 26-item version of the World Health Organisation Quality of Life assessment (WHOQoL-100) (11, 12). These questions respond to the definition of QoL (Table 1).

The WHOQoL-BREF contains a total of 26 questions. To provide a broad and comprehensive assessment, one item from each of the 24 facets contained in the WHOQoL-100 and in addition two items from the overall QoL and general health facet have been included (12).

Table 1. **WHOQoL-BREF domains**	
Domain	Facets incorporated within domains
1. Physical health	Activities of daily living Dependence on medicinal substances and medical aids Energy and fatigue Mobility Pain and discomfort Sleep and rest Work capacity
2. Psychological	Bodily image and appearance Negative feelings Positive feelings Self-esteem Spirituality, religion, personal beliefs Thinking, learning, memory and concentration
3. Social relationships	Personal relationships Social support Sexual activity
4. Environment	Financial resources Freedom, physical safety and security Health and social care: accessibility and quality Home environment Opportunities for acquiring new information and skills Participation in and opportunities for recreation, leisure activities Physical environment (pollution, noise, traffic, climate) Transport

Estimates of the parameters such as the mean QoL score in each domain, correlation between domains and between scores in each domain were available in the computer program package, SPSS version 10.1. Also, we were interested in factors that had an effect on QoL scores, and conducted an analysis of variance with the paired comparisons. An SPSS syntax file automatically checks, recodes data and computes QoL domain scores. This transformation method converts QoL scores to range between 4 and 20. The mean score of items within each domain was used to calculate the domain score. The four domain scores denoted an individual's perception of QoL in each particular domain. Domain scores were scaled in a positive direction, *i.e.* higher scores denoted a higher QoL (13). Standard deviation (SD) as a measure of dispersion around the mean was calculated.

Reliability analysis was used to study the properties of the WHOQoL–BREF measurement scale and the items that make them up. The reliability analysis procedure calculates a number of commonly used measures of scale reliability and also provides information on the relationships between individual items in the scale. The intraclass correlation coefficient, Cronbach's alpha, was used to compute the interrate reliability estimates. This is a model of internal consistency, based on the average inter-item correlation (13). Good reliability was found among the 26 questions of WHOQoL–BREF (Cronbach's alpha was 0.87).

The Bivariate correlations procedure was computed by Pearson's correlation coefficient (r). It is a measure of linear association. For quantitative, normally distributed variables, the correlation coefficients vary betwen –1 (a perfect negative relationship) and +1 (a perfect positive relationship).

RESULTS

Data were collected from 919 students (389 males (42.3%) and 530 females (57.7 %)) at three universities. The average age of the participants was 21.67 ± 1.34 years. The number of students involved in the survey at KMU was 292 (31.8 %), KTU 375 (40.8%), VU 252 (27.4%). The proportion of females in the study profile was the highest in VU (75%), followed by KMU (74%) and KTU (33.3%).

The QoL scores in each domain are presented in Table 2. The average QoL score of each domain ranged from 12.09 (environmental domain) to 15.05 (physical domain) and the overall average QoL score was 13.71. Significant differences in mean QoL scores were observed in each domain. The environmental domain was assessed by the lowest score. It was affected by all facets which examine this domain: financial resources, freedom, physical safety and security, health and social care: accessibility and quality, home environ-

Table 2. Average quality of life score in each domain

Domain	Minimum	Maximum	Mean	SD
Physical health	8.57	19.43	15.05	2.02
Psychological	5.33	18.67	13.50	2.19
Social relationships	4.00	20.00	14.42	2.90
Environment	4.00	18.50	12.09	2.36

le 4. The mean QoL scores (15.07) in the social domain were significantly higher in the humanitarian students ($p < 0.05$). Mean QoL scores in the environmental domain (11.78) were significantly lower in students of humanities than in biomedical and technological groups of students.

ment, opportunities for acquiring new information and skills, participation in and opportunities for recreation or leisure activities, physical environment (pollution, noise, traffic, climate), transport. The average students' QoL score in the psychological domain (13.50) was less than the overall average QoL score. We presume that it was determined by the lack of positive feelings, poor self-esteem.

Strong correlations were found between the physical and the environmental domains ($r = 0.52$) as well as social relations and psychological domain ($r = 0.5$), as shown in Table 3.

There were no significant differences in mean QoL scores between physical and psychological domains in biomedical, technological, humanitarian study profiles of the students' groups, as shown in Tab-

Bolow we present some important findings from the average QoL scores according to different factors. Female scores (14.92 ± 2.07) were significantly lower than male scores (15.23 ± 1.92) in the physical domain ($p < 0.05$). A strong correlation was noted between self-assessed health status and its mean QoL scores. For example, as is shown in Table 5, students who assessed their health as 'very

Table 3. Correlation coefficients (r) among the domains

Domain	Physical health	Psychological	Social relationships	Environment
Physical health	1	0.48 *	0.26 *	0.52 *
Psychological	0.48 *	1	0.50*	0.49 *
Social relationships	0.26 *	0.50 *	1	0.32 *
Environment	0.52 *	0.49*	0.32 *	1

* Correlation is significant at the 0.01 level.

Table 4. Average quality of life score by study profiles

Study profile	Domain											
	Physical health			Psychological			Social relationships			Environment		
	Mean	N	SD	Mean	N	SD	Mean	N	SD	Mean	N	SD
Biomedical	15.04	292	2.07	13.45	292	2.32	14.06	292	2.91	12.32	292	2.51
Technological	15.07	375	2.03	13.53	375	2.03	14.26	375	2.94	12.12	375	2.32
Humanitarian	15.05	252	1.95	13.54	252	2.28	15.07	252	2.73	11.78	252	2.22
Total	15.05	919	2.02	13.51	919	2.19	14.42	919	2.90	12.09	919	2.36

Table 5. Health condition and mean quality of life scores

Health condition assessed by students	Physical health			Psychological			Social relationships			Environment		
	Mean	N	SD	Mean	N	SD	Mean	N	SD	Mean	N	SD
Very good	16.05	270	1.61	14.25	270	2.37	15.20	270	2.92	12.81	270	2.22
Good	15.50	344	1.60	13.77	344	1.87	14.59	344	2.60	12.46	344	2.28
Neither poor nor good	13.90	257	1.87	12.82	257	1.96	13.69	257	3.00	11.11	257	2.12
Poor	12.17	40	2.30	11.00	40	2.06	12.40	40	2.46	10.41	40	2.36
Very poor	13.39	7	2.13	12.29	7	1.15	15.05	7	3.83	11.64	7	3.93
Total	15.05	918	2.02	13.51	918	2.19	14.42	918	2.90	12.09	918	2.36

good' or 'good' scored their QoL significantly higher (respectively 16.85 ± 1.61 and 15.50 ± 0.60) than those who answered 'poor' for the physical domain at the 5% significance level (12.17 ± 2.3). Similar results were observed in the psychological, social relationship, environment domains. Nevertheless, some students with higher QoL scores actually marked themselves 'very poor' in terms of health.

DISCUSSION

Over the recent years, the number of QoL studies has increased, nevertheless, as we pointed out, only a limited number of studies met certain criteria of research for healthy population. Measuring QoL at the population level enables researchers and policy makers to see trends in the well-being of populations beyond the disease level, to evaluate the remote effects of health and social policies and to determine allocation of resources. The WHOQoL instruments allow the monitoring of policy changes and can assess QoL in a variety of situations and population groups (12).

Significant differences in mean QoL scores were observed in each domain among Lithuanian university students. As we expected, the physical health domain of the students' QoL was assessed by the highest score, implying good activities of daily living, enough energy, less pain and discomfort, sufficient sleep and rest, good work capacity.

Guthrie and colleagues (14) found that the psychological well-being of a group of students in their final year of medical school was best predicted by their mental health scores in their first undergraduate year. Raj and associates (15) reported in their survey that the students as a group felt more tired and worn out and that they were having more difficulties with work or other daily activities as a result of physical health and emotional problems as the year progressed. The beginning of university training is a period of particularly high stress. This could explain why in our study the average QoL score in the psychological domain was lower than the overall average QoL scores of third year university students. As we presume, it could be determined by the negative feelings such as guilt, sadness, fearfulness, despair, nervousness, anxiety and the distress caused by all these feelings. The poor self-esteem facet shows that the students feel negative about themselves. The lack of positive feelings of contentment, balance, peace, happiness, hopefulness, joy and enjoyment of the good things in life, feelings about the future can be an important part of students' life determining low QoL scores in this domain.

The QoL mean scores in the social domain were significantly higher in the humanitariant group of students. It might be caused by better personal relationships and stronger social support in this group

than in biomedical and technical ones. Students of humanities feel higher companionship, love and support they desire from personal relationships in their life, commitment, approval and availability of practical assistance from family and friends, share in responsibility and work together to solve personal and family problems. Support from family and friends is essential in stressful situations.

A strong correlation was noted between QoL scores and self-assessment of health conditions. Several findings, anticipated by us, were obtained in this study. Some students with higher QoL scores actually marked themselves as very poor in terms of health. This may suggest that health status as assessed by the students themselves at the time when the questionnaire was filled in was not a reliable predictor of their QoL. The mechanisms by which people evaluate or quantify their QoL change over time. The impact of a chronic disease on the persons' QoL can be adapted to their changed clinical status. Therefore individuals with a severe disease do not necessarily report having a poor QoL (16). However, further studies are definitely necessary to be able to assess what the good predictors of QoL are. The QoL for the general population aged 25–34 years in 1993 in the United States was investigated for comparative purposes (15). Most of the QoL domain scores were similar between the student group and the United States general population except for general health perceptions; they perceived themselves as less healthy and more likely to become ill than others. Population-based studies started in Lithuania in order to assess and monitor the QoL in a standard way do not yet allow a comparison of the QoL domain scores of the student groups and general population.

Interpersonal-social interactions, psychological health, satisfaction, happiness, high self-esteem are extremely important aspects of students' life. Some of the factors that might be considered as the major contributors to the improvement of students' QoL are equity and accessibility of all educational opportunities, degree of openness to a diversity of ideas and availability and accessibility of social, recreational and cultural activities as well as the balancing of study with personal life or family responsibilities. These will help us to design new ways in delivering academic support services: flexibility in working hours and academic scheduling, time for personal life, child care facilities, self-improvement. The sense of university community spirit and morale depends on students' and faculty staff management relations as well as on the meaningful participation of students in decision-making structures. It is essential for the quality of students' life.

WHO's initiative to develop QoL assessment arises from the need for a truly international measure of QoL and a commitment to the continued

promotion of a holistic approach to health (12). Therefore, it was possible to carry out a comprehensive assessment and to have a systematic approach to the overall quality of students' life.

CONCLUSIONS

The results of our study indicated that there were no significant differences in mean QoL scores in the physical and psychological domains among biomedical, technological and humanitarian groups of students, though the average QoL score in the psychological domain was less than the overall average QoL scores of university students. The QoL mean scores in the social domain (15.07) were significantly higher in humanitarian students ($p < 0.05$). The difference was determined by better personal relationships and social support in this group of students than in biomedical and technical ones.

ACKNOWLEDGMENTS

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LIETUVOS STUDENTŲ GYVENIMO KOKYBĖ

S a n t r a u k a

Šio darbo tikslas – įvertinti ir palyginti biomedicinos, technologijos ir humanitarinių mokslo sričių studentų gyvenimo kokybę naudojant sutrumpintą Pasaulio sveikatos organizacijos gyvenimo kokybės klausimyną. Šioje apklausoje dalyvavo 919 III kurso studentų, studijuojančių Kauno medicinos, Kauno technologijos ir Vilniaus universitetuose. Gyvenimo kokybės vidurkis buvo 13,71 (maksimalus – 20). Nustatytas stiprus ryšys tarp fizinės sveikatos ir aplinkos, taip pat tarp socialinių santykių, psichologinės gyvenimo kokybės ir studentų gyvenimo kokybės bei savo sveikatos vertinimo. Moterų gyvenimo kokybės vidurkis fizinės sveikatos srityje buvo žemesnis nei vyrų.

Statistiškai reikšmingo skirtumo tarp biomedicinos, technologijos ir humanitarinių mokslo sričių studentų gyvenimo kokybės, vertinant ją fizinės ir psichologinės sveikatos aspektu, nenustatyta, nors psichologinės sveikatos gyvenimo kokybės vidurkis buvo mažesnis už bendrą gyvenimo kokybės vidurkį. Socialiniu aspektu gyvenimo kokybės vidurkis buvo statistiškai reikšmingai didesnis humanitarinių mokslų studentų grupėje negu biomedicinos ir technologijos mokslų. Tam galėjo turėti įtakos geresni studentų tarpusavio santykiai bei socialine parama.

Raktažodžiai: gyvenimo kokybė, sutrumpintas Pasaulio sveikatos organizacijos gyvenimo kokybės klausimynas, studentai